# Neurobiology

## **Volume Contents**

Vol. 59, No. 1, April 2004

## Special Issue

FESTSCHRIFT FOR PROFESSOR FRIEDRICH BONHOEFFER MOLECULAR TOPOGRAPHY IN THE NERVOUS SYSTEM

#### Dedication to Friedrich Bonhoeffer / 1

William A. Harris and Christine Holt Published online 1 March 2004

#### Aber Lenken Sie Auch? (But Do They Also Guide?) / 3

Uwe Drescher

Published online 1 March 2004

## Potential Role of Pax-2 in Retinal Axon Navigation through the Chick Optic Nerve Stalk and Optic Chiasm / 8

Solon Thanos, Sylvia Püttmann, Rita Naskar, Karin Rose, Mechthild Langkamp-Flock, and Werner Paulus

Published online 1 March 2004

## Discovery of Semaphorin Receptors, Neuropilin and Plexin, and Their Functions in Neural Development $/\ 24$

Hajime Fujisawa

Published online 1 March 2004

## Large-Scale Identification and Characterization of Genes with Asymmetric Expression Patterns in the Developing Chick Retina / 34

Takafumi Shintani, Akira Kato, Junichi Yuasa-Kawada, Hiraki Sakuta,

Masakazu Takahashi, Ryoko Suzuki, Takeshi Ohkawara, Hiroo Takahashi, and Masaharu Noda

Published online 1 March 2004

## Polarity and Laminar Formation of the Optic Tectum in Relation to Retinal Projection / 48

Harukazu Nakamura and Sayaka Sugiyama

Published online 1 March 2004

#### EphrinB2a in the Zebrafish Retinotectal System / 57

Mahendra Wagle, Barbara Grunewald, Sivan Subburaju, Cristiana Barzaghi, Sylvie Le Guyader, Joanne Chan, and Suresh Jesuthasan

Published online 1 March 2004

# Neurobiology

## **Volume Contents**

Vol. 59, No. 1, April 2004

## Special Issue

FESTSCHRIFT FOR PROFESSOR FRIEDRICH BONHOEFFER MOLECULAR TOPOGRAPHY IN THE NERVOUS SYSTEM

#### Dedication to Friedrich Bonhoeffer / 1

William A. Harris and Christine Holt Published online 1 March 2004

#### Aber Lenken Sie Auch? (But Do They Also Guide?) / 3

Uwe Drescher

Published online 1 March 2004

## Potential Role of Pax-2 in Retinal Axon Navigation through the Chick Optic Nerve Stalk and Optic Chiasm / 8

Solon Thanos, Sylvia Püttmann, Rita Naskar, Karin Rose, Mechthild Langkamp-Flock, and Werner Paulus

Published online 1 March 2004

## Discovery of Semaphorin Receptors, Neuropilin and Plexin, and Their Functions in Neural Development $/\ 24$

Hajime Fujisawa

Published online 1 March 2004

## Large-Scale Identification and Characterization of Genes with Asymmetric Expression Patterns in the Developing Chick Retina / 34

Takafumi Shintani, Akira Kato, Junichi Yuasa-Kawada, Hiraki Sakuta,

Masakazu Takahashi, Ryoko Suzuki, Takeshi Ohkawara, Hiroo Takahashi, and Masaharu Noda

Published online 1 March 2004

## Polarity and Laminar Formation of the Optic Tectum in Relation to Retinal Projection / 48

Harukazu Nakamura and Sayaka Sugiyama

Published online 1 March 2004

#### EphrinB2a in the Zebrafish Retinotectal System / 57

Mahendra Wagle, Barbara Grunewald, Sivan Subburaju, Cristiana Barzaghi, Sylvie Le Guyader, Joanne Chan, and Suresh Jesuthasan

Published online 1 March 2004

#### Convergent and Divergent Signaling Mechanisms of Growth Cone Collapse by Ephrin A5 and Slit2 $\,/\,$ 66

Eric V. Wong, Julie A. Kerner, and Daniel G. Jay Published online 1 March 2004

## Multiple Roles of Ephrins during the Formation of Thalamocortical Projections: Maps and More $/\ 82$

Jürgen Bolz, Daniela Uziel, Sven Mühlfriedel, André Güllmar, Christiane Peuckert, Konstantionos Zarbalis, Wolfgang Wurst, Masaaki Torii, and Pat Levitt Published online 1 March 2004

#### Computational Modeling of Retinotopic Map Development to Define Contributions of EphA-EphrinA Gradients, Axon-Axon Interactions, and Patterned Activity / 95

Paul A. Yates, Alex D. Holub, Todd McLaughlin, Terrence J. Sejnowski, and Dennis D.M. O'Leary
Published online 1 March 2004

# Activity-Driven Sharpening of the Retinotectal Projection: The Search for Retrograde Synaptic Signaling Pathways / 114

John T. Schmidt
Published online 1 March 2004

## Insights into Activity-Dependent Map Formation from the Retinotectal System: A Middle-of-the-Brain Perspective / 134

Edward S. Ruthazer and Hollis T. Cline Published online 1 March 2004

## Of Lasers, Mutants, and See-Through Brains: Functional Neuroanatomy in Zebrafish / 147

Ethan Gahtan and Herwig Baier Published online 1 March 2004

## Growth and Guidance Cues for Regenerating Axons:

Where Have They Gone? / 162
Paulo D. Koeberle and Mathias Bähr
Published online 1 March 2004

**Cover:** *In situ* hybridization of region-specific genes at E8 in E3 retina. The expression pattern for some genes are different at E3 and E8 in the retina. From the article by Shintani et al. on page 34 of this issue.

## Vol. 59, No. 2, May 2004

# Use of Targetable gfp-Tagged Neuropeptide for Visualizing Neuropeptide Release following Execution of a Behavior $/\ 181$

Qasim M. Husain and John Ewer Published online 9 January 2004

# Estrogen Increases Calcitonin Gene-Related Peptide-Immunoreactive Sensory Innervation of Rat Mammary Gland / 192

A.D. Blacklock and P.G. Smith Published online 9 January 2004

## Involvement of Glial Cells in Rhythmic Size Changes in Neurons of the Housefly's Visual System / 205

Elzbieta Pyza and Jolanta Górska-Andrzejak Published online 9 January 2004

## Novel Changes in Gene Expression following Axotomy of a Sympathetic Ganglion: A Microarray Analysis / 216

Kristen L. Boeshore, Rebecca C. Schreiber, Stacey A. Vaccariello, Hilary Hyatt Sachs, Rafael Salazar, Junghee Lee, Rajiv R. Ratan, Patrick Leahy, and Richard E. Zigmond Published online 22 January 2004

# Developmental Regulation of Spine and Filopodial Motility in Primary Visual Cortex: Reduced Effects of Activity and Sensory Deprivation / 236

Sila Konur and Rafael Yuste Published online 22 January 2004

Effects of Early Song Experience on Song Preferences and Song Control and Auditory Brain Regions in Female House Finches (Carpodacus mexicanus) / 247 Alexandra M. Hernandez and Scott A. MacDougall-Shackleton Published online 23 January 2004

#### **ERRATUM**

Rapid Electrical and Delayed Molecular Signals Regulate the Serum Response Element after Nerve Injury: Convergence of Injury and Learning Signals / 259 Hana Lin, Jianxin Bao, Ju-Sung Ying, Edgar T. Walters, and Richard T. Ambron

Cover: Arginase I-like immunoreactivity is dramatically increased in a sympathetic ganglion following axotomy. A montage is shown from an adult rat superior cervical ganglion 48 hr after its postganglionic nerve trunks had been transected. Neurons within the ganglion and macrophages within the nerve roots are immunoreactive for arginase I, as labeled by Cy3. No immunopositive labeling could be detected in sections from sham-operated or intact animals. For orientation and details, see the article by Boeshore et al. on page 216 of this issue.

Vol. 59, No. 3, June 2004

## Contents

# Pycnogenol® and Vitamin E Inhibit Ethanol-Induced Apoptosis in Rat Cerebellar Granule Cells $/\ 261$

Kendra I. Siler-Marsigliano, Gerry Shaw, and Marieta B. Heaton Published online 12 February 2004

# Expression of Functional Kainate and AMPA Receptors in Developing Lateral Superior Olive Neurons of the Rat / 272

Harald Vitten, Margret Reusch, Eckhard Friauf, and Stefan Löhrke Published online 12 February 2004

#### Beak Gape Dynamics during Song in the Zebra Finch / 289

Franz Goller, Mary Jo Mallinckrodt, and Sylvia D. Torti Published online 12 February 2004 Modulation of Two Oscillatory Networks in the Peripheral Olfactory System by  $\gamma$ -Aminobutyric Acid, Glutamate, and Acetylcholine in the Terrestrial Slug Limax marginatus / 304

Iori Ito, Tetsuya Kimura, Satoshi Watanabe, Yutaka Kirino, and Etsuro Ito Published online 9 March 2004

Tracheal Length Changes during Zebra Finch Song and Their Possible Role in Upper Vocal Tract Filtering / 319

Monica Daley and Franz Goller Published online 9 March 2004

Nitric Oxide Modulates Presynaptic Afferent Depolarization of Mechanosensory Neurons / 331

Hansjürgen Schuppe and Philip L. Newland Published online 9 March 2004

Author Index to Volume 59 / 345

Subject Index to Volume 59 / 347

Volume Contents / I

Cover:  $\beta$ -tubulin III of postnatal day 9 cerebellar granule neurons. The  $\beta$ -tubulin III was detected using a polyclonal rabbit antibody followed by a goat anti-rabbit secondary conjugated with Texas Red (Molecular Probes). Neuronal nuclei appear blue due to DAPI-staining. See the article by Siler-Marsigliano et al. on page 261 of this issue.